

Topic: Multiplying and dividing mixed numbers**Question:** Simplify the expression.

$$2\frac{1}{2} \cdot \frac{7}{3}$$

Answer choices:

A $\frac{7}{3}$

B $\frac{6}{35}$

C $\frac{35}{6}$

D $6\frac{1}{5}$



Solution: C

First, we'll convert the mixed number to an improper fraction.

$$2\frac{1}{2} \cdot \frac{7}{3}$$

$$\left[\frac{(2 \cdot 2) + 1}{2} \right] \cdot \frac{7}{3}$$

$$\left(\frac{4 + 1}{2} \right) \cdot \frac{7}{3}$$

$$\frac{5}{2} \cdot \frac{7}{3}$$

To multiply the fractions, we multiply the numerators and the denominators separately.

$$\frac{5 \cdot 7}{2 \cdot 3}$$

$$\frac{35}{6}$$



Topic: Multiplying and dividing mixed numbers**Question:** Simplify the expression.

$$2\frac{1}{2} \div \frac{7}{6}$$

Answer choices:

A $\frac{15}{7}$

B $\frac{14}{6}$

C $\frac{35}{12}$

D $\frac{35}{6}$



Solution: A

First, we'll convert the mixed number to an improper fraction.

$$2\frac{1}{2} \div \frac{7}{6}$$

$$\left[\frac{(2 \cdot 2) + 1}{2} \right] \div \frac{7}{6}$$

$$\left(\frac{4 + 1}{2} \right) \cdot \frac{7}{6}$$

$$\frac{5}{2} \div \frac{7}{6}$$

To divide by $7/6$, we multiply by its reciprocal.

$$\frac{5}{2} \times \frac{6}{7}$$

$$\frac{5 \cdot 6}{2 \cdot 7}$$

$$\frac{30}{14}$$

Now we'll reduce the fraction to its lowest terms by dividing the numerator and denominator by their greatest common factor, which is 2.

$$\frac{30 \div 2}{14 \div 2}$$

$$\frac{15}{7}$$



Topic: Multiplying and dividing mixed numbers**Question:** Simplify the expression.

$$3\frac{1}{6} \div 1\frac{1}{8}$$

Answer choices:

A $\frac{27}{76}$

B $\frac{76}{27}$

C $4\frac{1}{2}$

D $\frac{9}{6}$



Solution: B

First, we'll convert the mixed numbers into improper fractions.

$$3\frac{1}{6} \div 1\frac{1}{8}$$

$$\frac{6 \cdot 3 + 1}{6} \div \frac{8 \cdot 1 + 1}{8}$$

$$\frac{19}{6} \div \frac{9}{8}$$

Instead of dividing by $9/8$, we'll multiply by its reciprocal.

$$\frac{19}{6} \times \frac{8}{9}$$

$$\frac{19 \cdot 8}{6 \cdot 9}$$

$$\frac{152}{54}$$

Now we'll reduce the fraction to its lowest terms by dividing the numerator and denominator by their greatest common factor.

$$\frac{152 \div 2}{54 \div 2}$$

$$\frac{76}{27}$$

